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ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND
NAVAL MATERIAL COMMAND
AIR FORCE LOGISTICS COMMAND
AIR FORCE SYSTEMS COMMAND

LEVEL 1

FINAL REPORT

OF THE
JOINT LOGISTICS COMMANDERS
SOFTWARE WORKSHOP

VOLUME I



1 OCTOBER 1979

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report contains the specific recommendations of the military, DOD, and industry participants that attended the 2-5 April 1979 Joint Logisitcs Commanders (JLC) Embedded Computer Software Workshop held at the Naval Post-graduate School, Monterey, CA. The recommendations are to Develop:		
<ol style="list-style-type: none"> 1. Software Acquisition Policy 2. Software Acquisition 3. Software Documentation Standards 		

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20. ABSTRACT

4. Software Quality Assurance Standards; Q & A
5. Software Acceptance Standards,

All products and standards developed as a result of this effort will be recommended for implementations throughout DOD.

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PREFACE

This summary report presents recommendations for standardizing the software acquisition and development procedures of the three services. The report derives from the work accomplished at the Joint Logistics Commanders (JLC) Software Workshop held at the Naval Postgraduate School in Monterey, California, during the period of April 2 to 5, 1979.

The JLC Software Workshop was sponsored by the Software Management Subgroup as chartered by the Joint Policy Coordinating Group on Computer Resources Management (JPCG-CRM). The purpose was to examine the services' software acquisition guidelines, management procedures, and standardization efforts to determine if there was a basis for coordination and adoption of joint service standards. It was expected that such an effort could improve the efficiency of software acquisition through a common approach to the understanding and documentation of life-cycle requirements for computer resources.

The workshop was composed of four panels:

- Panel A - Software Acquisition/Development Standards
- Panel B - Software Documentation
- Panel C - Standards for Software Quality
- Panel D - Software Acceptance Criteria.

Technical personnel from the Army, Navy, Air Force, Marine Corps, other Federal agencies, and industry participated in the workshop. The panels were chaired by industry representatives who were responsible for planning and running the panels, and for follow-up work sessions leading to their final reports (Volume II, Proceedings of the Software Workshop).

The Software Management Subgroup reviewed the individual panel reports and adopted recommendations that could realistically be pursued within the Computer Software Management (CSM) charter.

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SECTION 1 - INTRODUCTION

1.1 BACKGROUND

The complexity of military systems has steadily increased because of the growing demands of modern warfare. In general, these demands have been met through the use of embedded computers which are integral to the operation and support of such systems. It is commonly recognized that computer-related costs have been, and will continue to be the major driving force in the development and deployment phases of system acquisition. The Department of Defense (DoD) has shown increasing concern in improved methods and policies in what is commonly called Embedded Computer Systems (ECS) acquisition.

To address the problems related to the acquisition and maintenance of embedded computer systems, the Joint Logistics Commanders (JLC) established the Joint Policy Coordinating Group on Computer Resource Management (JPCG-CRM). The JPCG-CRM chartered a subgroup on Computer Software Management (CSM) to serve as a focal point for coordination of activities related to the acquisition of computer software used in support of defense systems.

The mission of the CSM Subgroup is to review policies, procedures, regulations, and standards relating to computer software, and forward specific recommendations to the JPCG-CRM on critical areas related to software acquisition management, including software development, quality, testing, and post-development support. These recommendations should describe and justify specific actions to be taken by JLC or DoD agencies. Furthermore, such recommendations should aid in the improvement and standardization of the software acquisition process within the JLC and DoD communities.

In reviewing current DoD policy and guidance in the area of software management, it appeared that available information was often conflicting, redundant, or in some cases, lacking. A software workshop was conducted to review areas in which shortcomings were evident, and to make appropriate recommendations for improvement and standardization of the DoD software acquisition process. This report incorporates the findings of that workshop into recommendations that can be realistically pursued and which offer maximum benefit and improved software life-cycle management procedures for the joint services.

1.2 WORKSHOP ORGANIZATION

The software workshop was held in Monterey on April 2 through 5, 1979. The organization of the workshop is shown in Figure 1-1. The CSM Subgroup limited the workshop's area of concern to four critical topics, and established panels to address each topic:

- Software Acquisition/Development Standards
- Software Documentation
- Standards for Software Quality
- Software Acceptance Criteria.

Members of each panel were selected by the CSM Subgroup from the three services, non-DoD federal agencies, and industry. Panel chairmen were chosen from industry in order to avoid bias. Prior to the actual workshop, detailed panel agendas were written by the chairmen and sent to all members, along with a required reading list. This enabled all personnel to be prepared fully for the proceedings of the workshop. Each chairman organized his panel in a manner that would best accomplish the particular panel objectives (shown in Table 1).

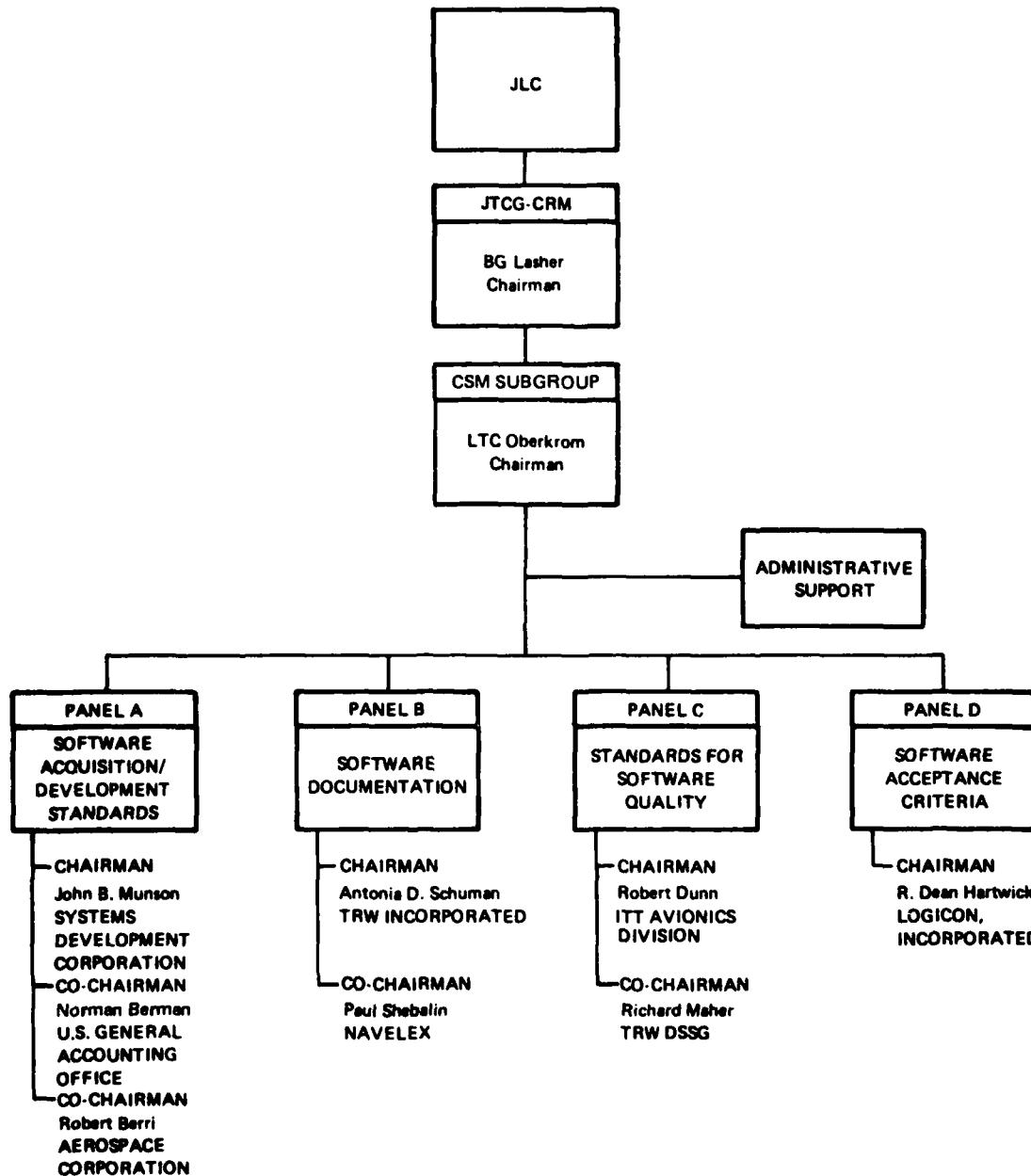


Figure 1-1. Software Workshop Organization

Table 1. Objective of Workshop Panels

PANEL	OBJECTIVE
SOFTWARE ACQUISITION/ DEVELOPMENT STANDARDS	TO EVALUATE THE POTENTIAL FOR DEVELOPING JOINT SERVICE STANDARDS FOR THE ACQUISITION OF EMBEDDED COMPUTER SYSTEMS SOFTWARE WITHIN DoD.
SOFTWARE DOCUMENTATION	TO ESTABLISH REQUIREMENTS FOR THE MINIMIZATION AND STANDARDIZATION OF COMPUTER SOFTWARE DOCUMENTATION AS APPLIED TO DoD.
STANDARDS FOR SOFTWARE QUALITY	TO DEFINE THE CONTENT OF A SET OF DOCUMENTS THAT WOULD ESTABLISH EXPECTATIONS OF SOFTWARE QUALITY ASSURANCE PROGRAMS USEFUL TO DoD.
SOFTWARE ACCEPTANCE CRITERIA	TO DEVELOP RECOMMENDATIONS TOWARD A JOINT SERVICE STANDARD THAT DELINEATES CRITERIA FOR THE ACCEPTANCE OF EMBEDDED COMPUTER SOFTWARE FOR DoD.

Daily meetings of all workshop members were held to review accomplishments and discuss areas of general concern.

1.3 FOLLOW-UP ACTIVITIES

Upon completion of the panel sessions, each chairman presented the preliminary results of his own panel to the assembled workshop members. These preliminary results required follow-up efforts and coordination by the panel members. The chairmen then prepared the final panel reports which were submitted to the CSM subgroup on June 20, 1979, for review and consideration. These final reports are contained in Volume II, Proceedings of the Software Workshop.

In subsequent meetings, the CSM Subgroup discussed and evaluated the findings and recommendations of the workshop. The outcome of these meetings is the set of findings and recommendations contained in this report.

SECTION 2 - REPORT OF FINDINGS AND RECOMMENDATIONS

2.1 INTRODUCTION

The technical and management areas affecting software acquisition and development as reported by the four workshop panels can be consolidated into five basic areas:

- Software Acquisition Policy
- Software Acquisition and Development Standards
- Software Documentation Standards
- Software Quality Assurance Standards
- Software Acceptance criteria.

A number of problems were identified in each area.

2.2 FINDINGS

2.2.1 Software Acquisition Policy

There is no general policy defining a common software acquisition framework for the joint services. Each service has implemented DoDD 5000.29, "Management of Computer Resources in Major Defense Systems," somewhat independently. As a result, differing policies exist among the services producing differences in emphasis and nomenclature with varying interpretations and degrees of implementation. For example, there are noted shortcomings in the area of planning for post-development software support (i.e., support during deployment). All services appear deficient in the procurement of the necessary support tools and documentation.

2.2.2 Software Acquisition and Development Standards

Within DoD, there are a number of diverse regulations and standards covering the various aspects of software acquisition

(e.g., MIL-STD 483/490, MIL-STD-1679). Some of the standards are service unique, such as MIL-STD-1679 (Navy) and MIL-STD-483 (USAF), while others, such as MIL-S-52779 (Army) have been adopted in practice by the joint services. For those that are unique, terminology and definitions are not always common with other standards. Partial and inadequate standards coupled with a lack of standardization of Data Item Descriptions (DIDs), lead to delivered software products which are often unsatisfactory.

Contractual acquisition of software has been an area of embedded computer system development which has not received the tri-service attention it warrants. MIL-STD-1679 (Navy), "Weapon System Software Development," sets forth a number of important concepts regarding acquisition practices, but is written in such a way that it does not interface with other existing standards and data items.

The joint service commonality of acquisition and development standards is feasible and essential. However, any effort to develop a consistent set of standards must be accomplished within a common policy framework as addressed in paragraph 2.2.1. Only then will the various diverse standards covering software acquisition realize common terminology and interpretation.

2.2.3 Software Documentation Standards

As with software acquisition and development, there are a number of diverse standards related to software documentation within the services. This applies to documents developed within the project management office such as software life-cycle management plans as well as contractor-delivered documents referred to contractually as data items. Terminology

and definitions vary between documents used by the services even though the subject matter is identical. There is no clear definition of when, by whom, and for what purpose (e.g., verification, maintenance) various documents are required. Moreover, there is no defined methodology for determining minimum documentation requirements for a particular system. The tendency is to procure either a comprehensive set of documents or none at all, rather than specifying the minimum essential set.

It should be noted that standardization of software documentation must be closely coordinated with efforts in the policy and acquisition/development areas as defined in paragraphs 2.2.1 and 2.2.2. For example, certain acquisition standards include data requirements that properly belong in DIDs, while other standards such as MIL-STD-1521, "Reviews and Audits", should identify documentation to be reviewed at each milestone.

2.2.4 Software Quality Assurance Standards

MIL-S-52779, "Software Quality Assurance Program Requirements," has been widely used since 1974. Recently, it has become an official joint service standard. As a Software Quality Assurance (SQA) Standard, MIL-S-52779 specifies contractor requirements for planning a software QA program.

Applications of this standard have met with varying degrees of success. There have been instances where Government acquisition managers have not considered MIL-S-52779 acceptable due to the imposition of additional schedule and budget requirements. DoD plant representatives and DCASR personnel have had difficulty in evaluating and monitoring contractor SQA programs. In addition, enforcing compliance of such programs with MIL-S-52779 has been difficult.

Noted reasons for these difficulties are the lack of well-defined, consistent requirements, differences in SQA approaches by the services, and unavailability of experienced personnel. The latter problem is aggravated by inadequacies in SQA guidance and training. An additional problem is that a minimum set of documents governing SQA does not exist. Besides MIL-S-52779, this minimum set should include:

- a. A DID for SQA planning.
- b. An SQA handbook to help in the interpretation of the standard/specification.
- c. An SQA guidebook to provide background in this field.

2.2.5 Software Acceptance Criteria

The acceptance of software has been the subject of a great deal of discussion and concern. Basic concerns involve a lack of recognized acceptance criteria, a lack of DoD standardization, and a lack of historical data upon which to base acceptance criteria and procedures.

Unlike hardware, successful development of software cannot be based on passing a definitive test at the end of development. Experience has shown the end item acceptance approach to software as disastrous. Acceptance based on this approach provides no warning of an unsatisfactory product until a point is reached where recovery becomes exceedingly expensive in terms of cost and schedule. There is strong evidence to support the view that various software acceptance criteria must be applied at well-defined points of the development phase of the

software life cycle. Furthermore, these acceptance criteria must not be allowed to be ignored for reasons of expediency.

Within DoD, there is no standard set of software acceptance criteria. Consequently, the project manager has no measure of progress or assurance that the software will perform at an acceptable level. In order to increase the quality of software delivered under military contracts, acceptance criteria must be applied at meaningful milestones in the software life-cycle. Acceptance criteria must be developed in consonance with the acquisition/development framework discussed in paragraphs 2.2.1 and 2.2.2.

Additionally, an effort must be made to collect historical data on software development projects. The paucity of software error data for joint service programs makes it impossible to develop an accurate error model to help predict software reliability. Furthermore, the establishment of a software error data base would aid in the validation of criteria and determination of those points in the development process where criteria are best applied.

2.3 RECOMMENDATIONS

2.3.1 Software Acquisition Policy

Develop a general policy framework for the joint services to address the entire software life cycle - the common service functional elements and milestones, including a unified set of terminology and definitions, should be specified as part of this effort. This policy framework should provide the foundation for formulating and revising software acquisition and development standards, as described in paragraph 2.3.2, and the software DIDs, (paragraph 2.3.3.) The elements of the

software life cycle must be described in sufficient detail to allow common implementation procedures by the developers, users, and maintainers within each service. Appendix 3 of the panel report on Software Acquisition/Development Standard, Volume II, and AFR 800-14, dealing with acquisition and support policies and procedures for computer resources in systems, should be used as the basis for developing the required set of software acquisition policies. This set of software acquisition policies must be consistent with defense systems acquisition policy as described by the 5000 series DoD directives.

The early planning and specification of post-development software support tools and documentation requires emphasis. The development of policy in this area should specify software support requirements as a key element during the validation and demonstration phase. The determination of these requirements later in the program, when development is well underway, is too late.

2.3.2 Software Acquisition and Development Standards

Develop a single unified set of acquisition and development standards for joint service application - this effort should emphasize common terminology and definitions, and conform to the software acquisition policy as specified in paragraph 2.3.1.

It is recognized that a long-term effort is required to develop a set of acquisition and development standards for tri-service use. However, immediate benefits can be obtained by adapting MIL-STD-1521A and MIL-STD-1679 as joint service standards. Long-term efforts include the revision of standards such as MIL-STD-483 and MIL-STD-490.

It should be noted that efforts in developing these software standards must be closely coupled with the software documentation standardization effort addressed in paragraph 2.3.3. This coordination must ensure that all documentation formats and content descriptions are implemented as DIDs which may be referenced in the software development standards where appropriate.

2.3.3 Software Documentation Standards

Define and develop a comprehensive set of Data Item Descriptions (DIDs) for use in software acquisition - to initiate this effort, the requirements for documentation should be reviewed in light of the recommendations made in Appendix 3 of the panel report on Software Documentation, Volume II. This review should examine these documentation requirements from the aspect of acquisition, development, and support to identify common and unique requirements in each area. As in the acquisition standards effort, common definitions and terminology must be agreed upon. After defining a complete set of documents, a complete review of existing data items should be conducted to see what can be salvaged. Based on this result, the actual DIDs should be developed to provide a complete set for joint service applications. These DIDs must be coordinated with applicable standards. Specifically, consideration should be given to immediate incorporation of these DIDs into the recommended joint service adaptation of MIL-STD-1521A and MIL-STD-1679.

A methodology for determining the minimum documentation required for a given acquisition should be developed - the methodology should consider program characteristics such as complexity of the system, program cost, support requirements, operating environment, etc. The methodology should be

sufficiently detailed to provide software acquisition managers with a useful tool for determining documentation requirements.

2.3.4 Software Quality Assurance Standards

Since MIL-S-52779 has been adopted as a joint service standard, it only remains to be applied by the services. The following documents should be developed to support implementation of MIL-S-52779:

- a. Using the Navy Data Item DI-R-2174 and Appendix 4 of the panel report on Software Quality, Volume II, as a basis, generate a DID for the contractor's SQA plan.
- b. Using Air Force Pamphlet 74-2 as a basis, develop a handbook for the interpretation of MIL-S-52779.

In addition, the following actions should be completed:

- a. Define Government practices, procedures, methodologies, and responsibilities in the area of SQA. (Such definitions may transcend present quality assurance organizational boundaries.) Develop an SQA guidebook from these definitions.
- b. Establish training courses in SQA for DoD personnel. (Development of an SQA course and guidebook may be accomplished concurrently.)

2.3.5 Software Acceptance Criteria

Incorporate in the policy established in paragraph 2.3.1, the requirement to use software acceptance criteria at critical milestones throughout the software life-cycle acquisition process - define and develop a set of acceptance criteria for

use in software acquisition using Appendix 7 and 8 of panel report on Software Acceptance Criteria as a point of departure. These acceptance criteria must be defined in terms of the software development life cycle applied to each milestone, and must be incorporated into the software acquisition and development standards effort as described in paragraph 2.3.2. In addition, a guidebook should be developed describing the application of software acceptance criteria.

Identify specific programs for the collection of software error data - the collection of this data will allow the development of error models for measuring software performance. As models are developed and improved, more accurate standards for performance and acceptance criteria can be established for future software acquisition.

2.4 JPCG-CRM ACTION

Because the recommendations presented in subsection 2.3 are mutually dependent, a plan of action and milestones (POA&M), which integrates their implementation, was developed for a joint service software standardization program (see Section 3). This POA&M specifies the schedule necessary to achieve software acquisition standardization among the military services. A central activity or management group should be sponsored by the JPCG-CRM to assign, monitor, and review the individual tasks specified in this POA&M.

SECTION 3 - PLAN OF ACTIONS AND MILESTONES

The following sections describe a suggested implementation plan for recommendations given in subsection 2.3. For each of the five areas discussed, a subplan is given delineating task descriptions and schedules.

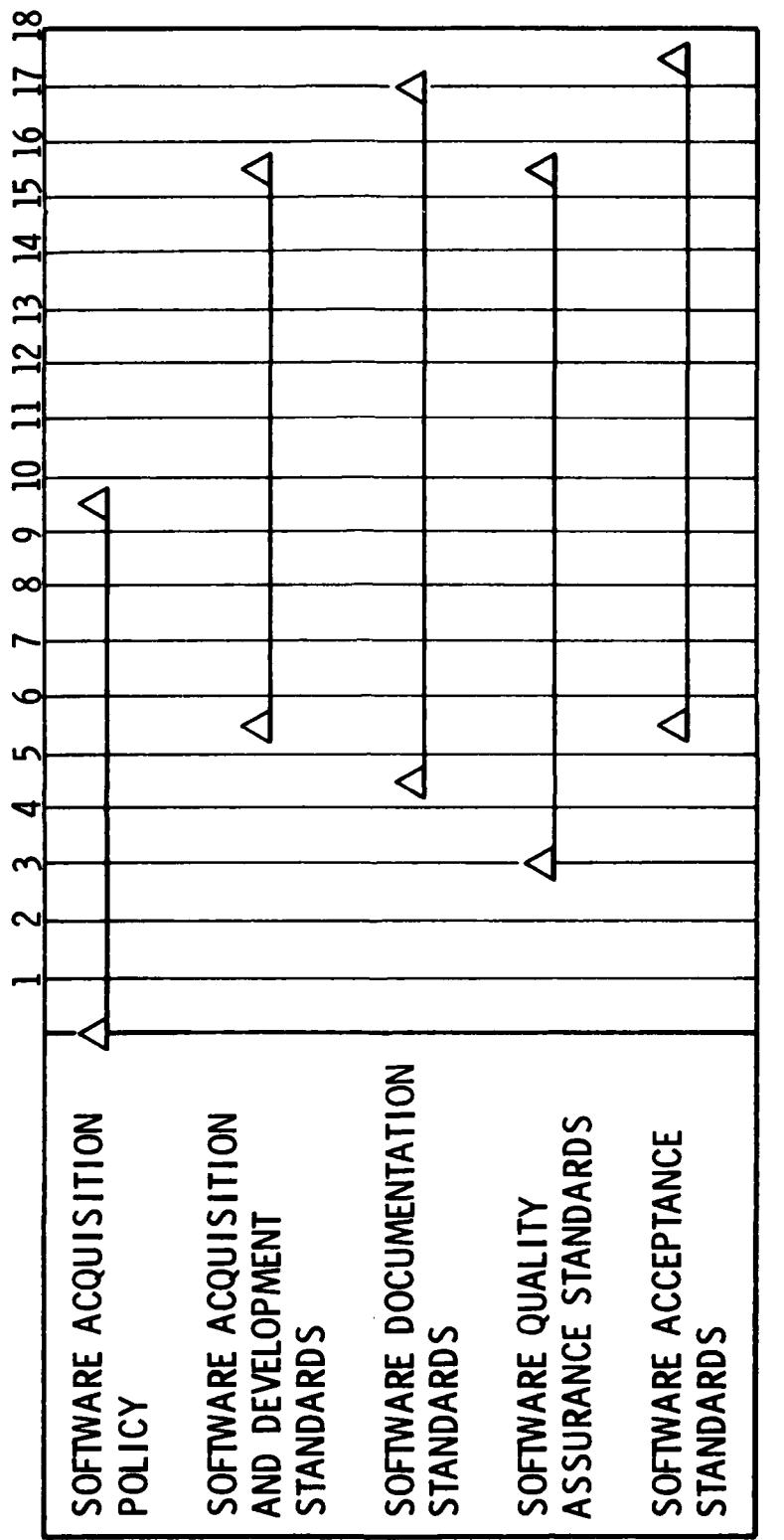
It must be emphasized that these five major efforts are not independent of one another, and, thus, intensive management of and close coordination among the areas are necessary.

Each subplan indicates that completion of its associated task occurs upon submission of the task products to the JPCG-CRM for approval and staffing.

These subplans, in conjunction with the discussions in Section 2, should provide sufficient background and detail for implementation of the standardization program.

A general schedule and summary of tasks follows.

GENERAL SCHEDULE



MONTHS AFTER START

**3.1 PLAN FOR
SOFTWARE ACQUISITION POLICY**

SOFTWARE ACQUISITION POLICY

- SOFTWARE LIFE CYCLE
- TERMINOLOGY/IDENTIFICATIONS
- ACQUISITION POLICY

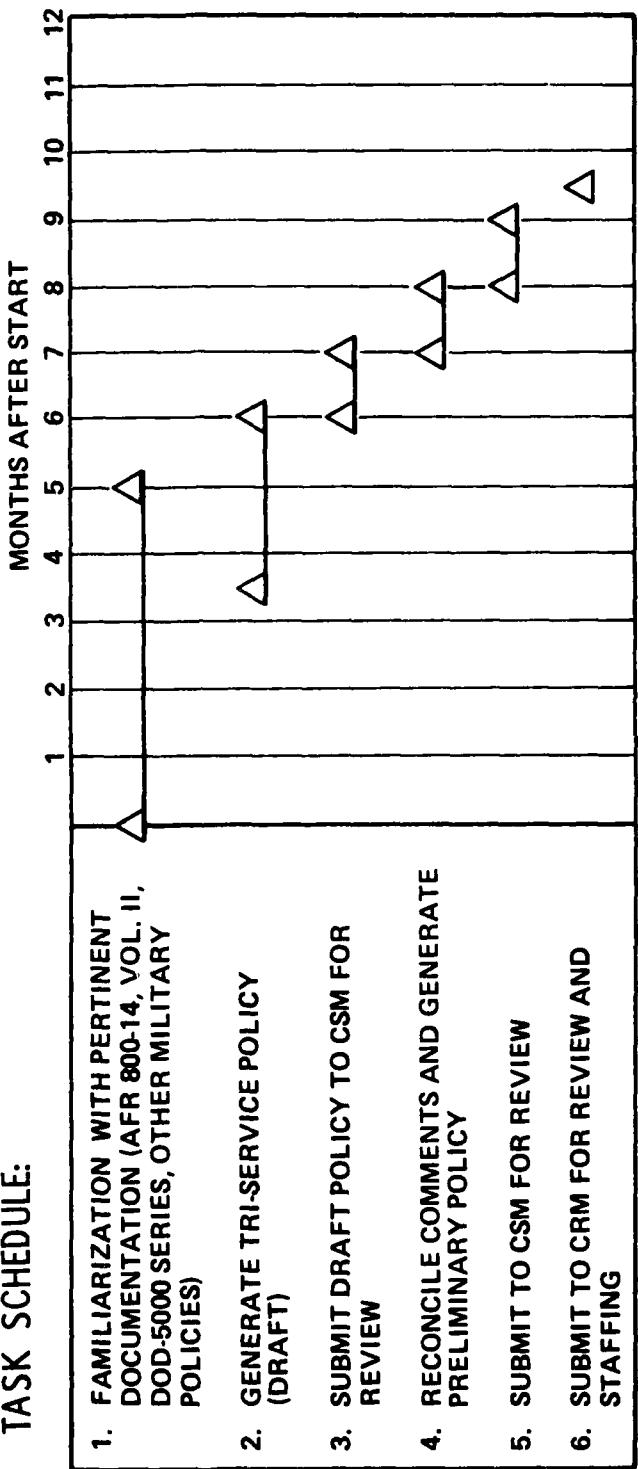
SOFTWARE ACQUISITION POLICY

TASK DESCRIPTION:

USING AFR 800-14 AND REPORT OF PANEL A ON
SOFTWARE ACQUISITION, VOLUME II, OF JLC
SOFTWARE WORKSHOP, AS A BASIS, GENERATE
STANDARD LIFE-CYCLE MODEL AND TERMINOLOGY
AND DEVELOP A TRI-SERVICE POLICY FOR SOFT-
WARE ACQUISITION

SOFTWARE ACQUISITION POLICY

TASK SCHEDULE:



3.2 PLAN FOR SOFTWARE ACQUISITION AND DEVELOPMENT STANDARDS

SOFTWARE ACQUISITION AND DEVELOPMENT STANDARDS

ACQUISITION AND DEVELOPMENT STANDARDS

- SHORT-TERM EFFORT TO REFINE MIL-STD-1521A AND 1679
- LONG-TERM EFFORT TO REVISE MIL-STD-483, 490, AND OTHER SPECIFICATIONS AND STANDARDS

POLICY AND PROCEDURES COMPATIBILITY

- ENSURE DATA REQUIREMENTS ARE ONLY REFERENCED IN SPECIFICATIONS AND STANDARDS
- ENSURE REVISIONS TO STANDARDS ARE COMPATIBLE WITH POLICY FRAMEWORK

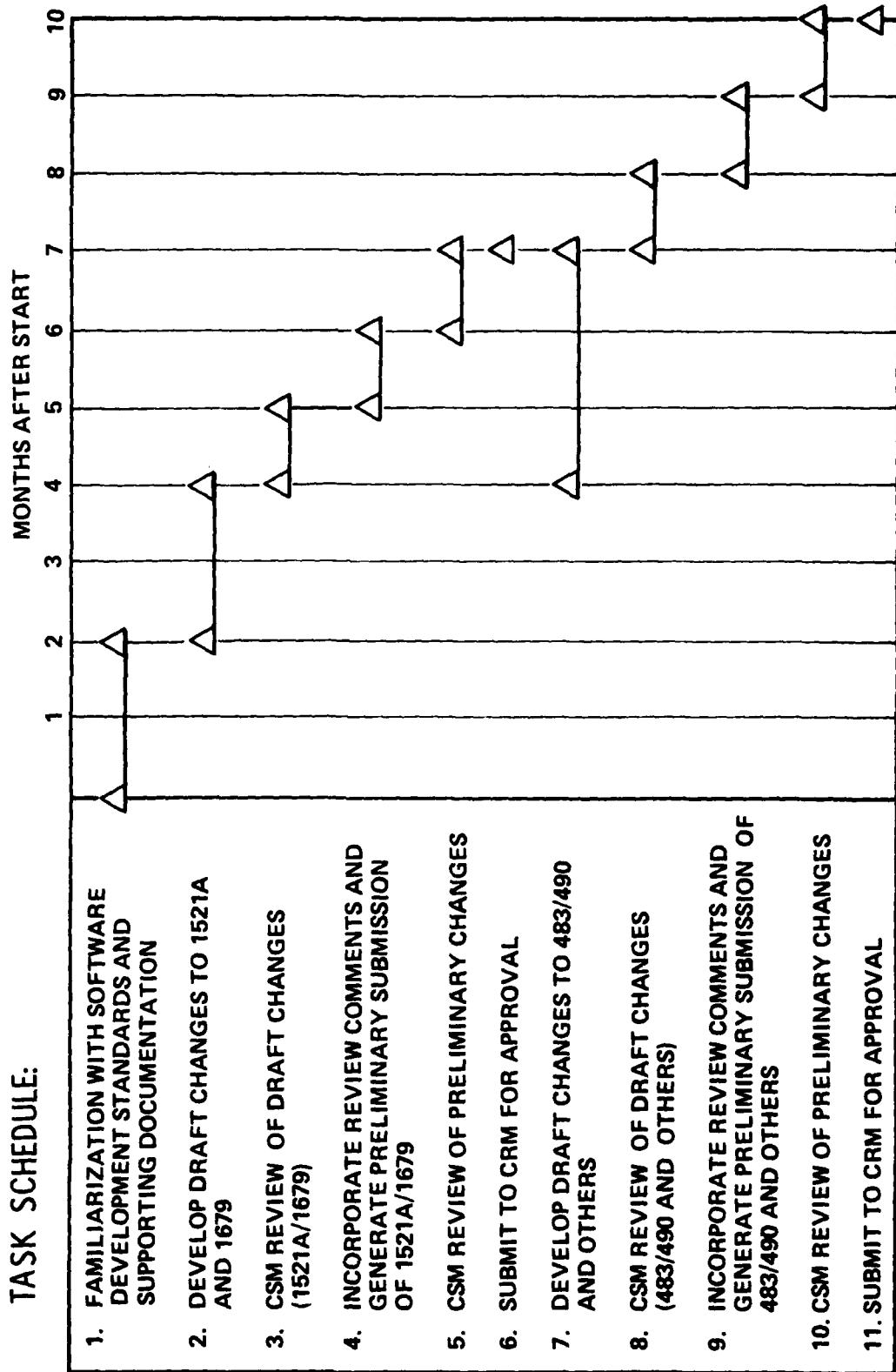
ACQUISITION/DEVELOPMENT STANDARDS

TASK DESCRIPTION:

DEVELOP A SINGLE, UNIFIED SET OF ACQUISITION STANDARDS FOR TRI-SERVICE APPLICATION. A SHORT-TERM EFFORT IS REQUIRED TO REFINE MIL-STD-1521A AND 1679 FOR TRI-SERVICE APPLICATION. A LONG-TERM EFFORT IS REQUIRED TO DEVELOP REVISIONS TO MIL-STD-483, 490, AND OTHERS IDENTIFIED DURING THE CONDUCT OF THIS TASK.

ACQUISITION/DEVELOPMENT STANDARDS

TASK SCHEDULE:



3.3 PLAN FOR SOFTWARE DOCUMENTATION STANDARDS

DOCUMENTATION STANDARDS

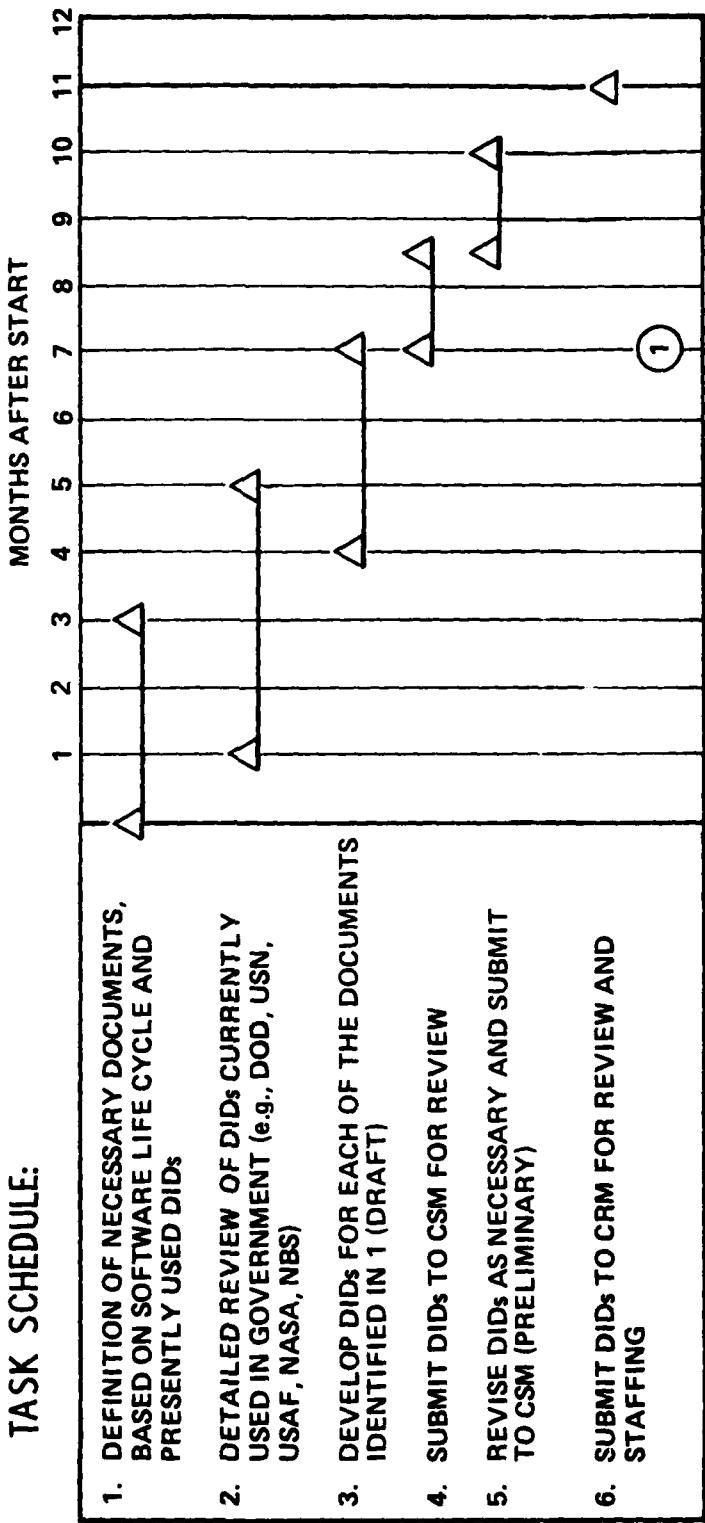
- COMPREHENSIVE SET OF DATA ITEM DESCRIPTIONS (DIDs) FOR SPECIFYING CONTRACTOR DELIVERABLES
- GUIDELINES FOR TAILORING THE SET OF DIDs CALLED OUT IN A SOFTWARE DEVELOPMENT CONTRACT
- DEFENSE CONTRACTOR RESPONSIBILITIES IN APPROPRIATE STANDARDS AND SPECIFICATIONS (e.g., MIL-STD-490) FROM WHICH DIDs CAN BE INVOKED

DATA ITEM DESCRIPTIONS (DIDs) REQUIRED FOR SOFTWARE DEVELOPMENT CONTRACTS

TASK DESCRIPTION: USING EXISTING DOD/GOVERNMENT DIDs AS A POINT OF DEPARTURE, DEVELOP A COMPREHENSIVE SET OF DIDs, SUBSETS OF WHICH WOULD BE APPLICABLE TO ANY DEFENSE SYSTEM SOFTWARE DEVELOPMENT CONTRACT

DATA ITEM DESCRIPTIONS (DIDs) REQUIRED FOR SOFTWARE DEVELOPMENT CONTRACTS

TASK SCHEDULE:



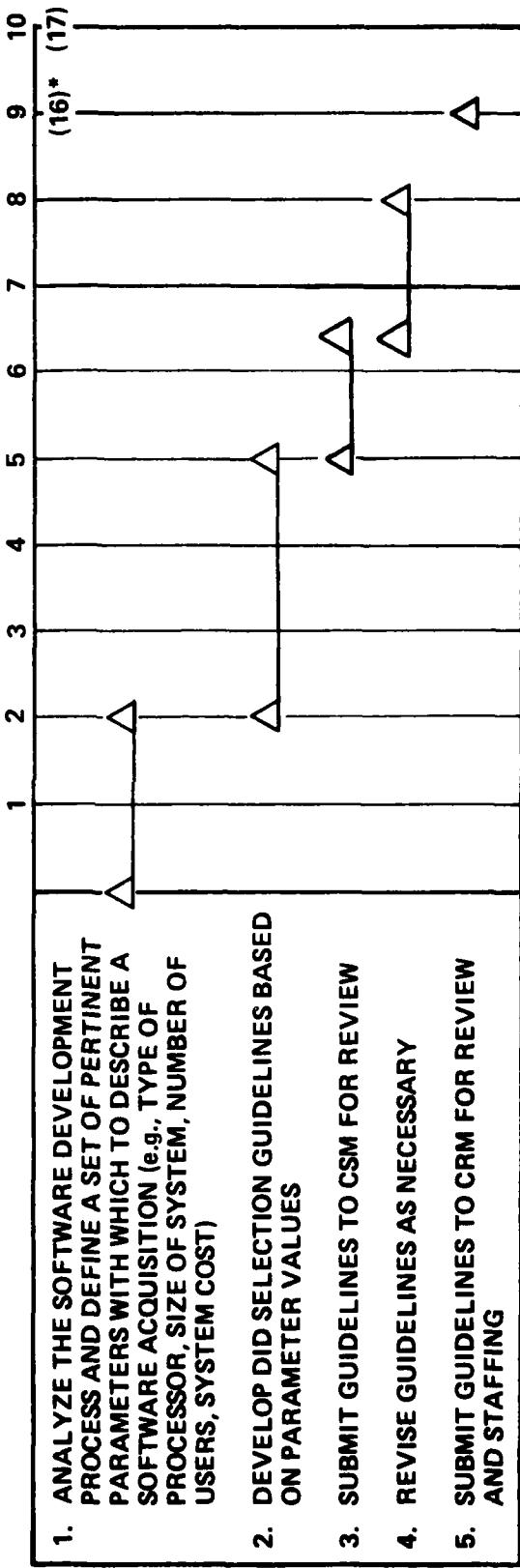
① START GUIDELINES TASK AT MONTH 7

GUIDELINES FOR SELECTING DIDS REQUIRED FOR A DEFENSE SYSTEM SOFTWARE DEVELOPMENT EFFORT

TASK DESCRIPTION: DEVELOP A SET OF GUIDELINES WHICH ASSIST PROGRAM/
PROJECT MANAGERS IN SELECTING THE CONTRACTOR DATA
REQUIREMENTS NECESSARY FOR THEIR SOFTWARE
ACQUISITION

GUIDELINES FOR SELECTING DIDS REQUIRED FOR A DEFENSE SYSTEM SOFTWARE DEVELOPMENT EFFORT

TASK SCHEDULE:



**3.4 PLAN FOR
SOFTWARE QUALITY ASSURANCE STANDARDS**

SOFTWARE QUALITY ASSURANCE STANDARDS

ACQUISITION DOCUMENTS

- MIL-S-52779, SOFTWARE QUALITY ASSURANCE PROGRAM REQUIREMENTS
- DATA ITEM DESCRIPTION FOR SOFTWARE QUALITY ASSURANCE PLAN

HANDBOOK FOR THE INTERPRETATION OF MIL-S-52779

GOVERNMENT POLICY DOCUMENTS AND EFFORTS

- GENERAL POLICIES
- GUIDEBOOK FOR SOFTWARE QUALITY ASSURANCE PRACTICES
- TRAINING COURSE FOR SOFTWARE QUALITY ASSURANCE SPECIALISTS AND ENGINEERS

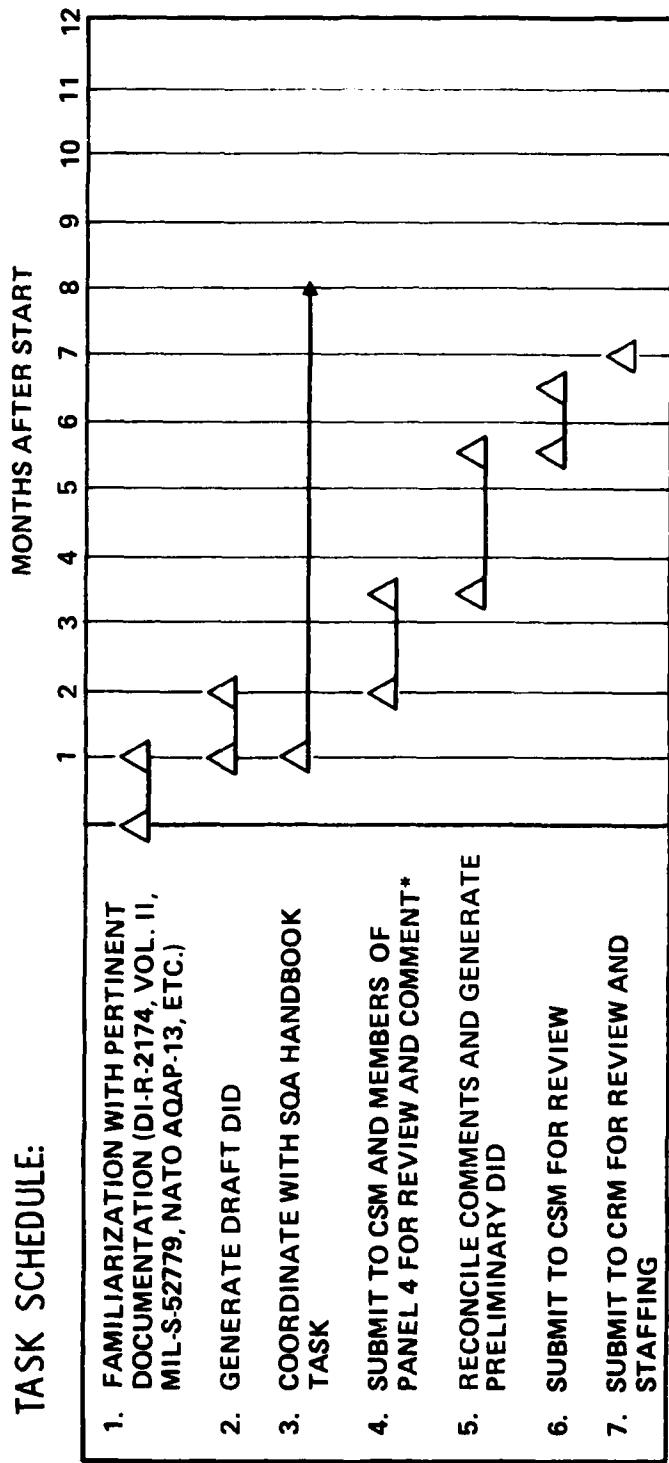
DATA ITEM DESCRIPTION FOR SOFTWARE QUALITY ASSURANCE PLAN

TASK DESCRIPTION:

USING NAVY DATA ITEM DI-R-2174 AND APPENDIX 4 OF THE PANEL REPORT ON SOFTWARE QUALITY, VOL. II OF JLC SOFTWARE WORKSHOP, AS A BASIS, GENERATE A DATA ITEM DESCRIPTION FOR A CONTRACTOR'S SOFTWARE QUALITY ASSURANCE PLAN AS A TRI-SERVICE STANDARD DID

DATA ITEM DESCRIPTION FOR SOFTWARE QUALITY ASSURANCE PLAN

TASK SCHEDULE:



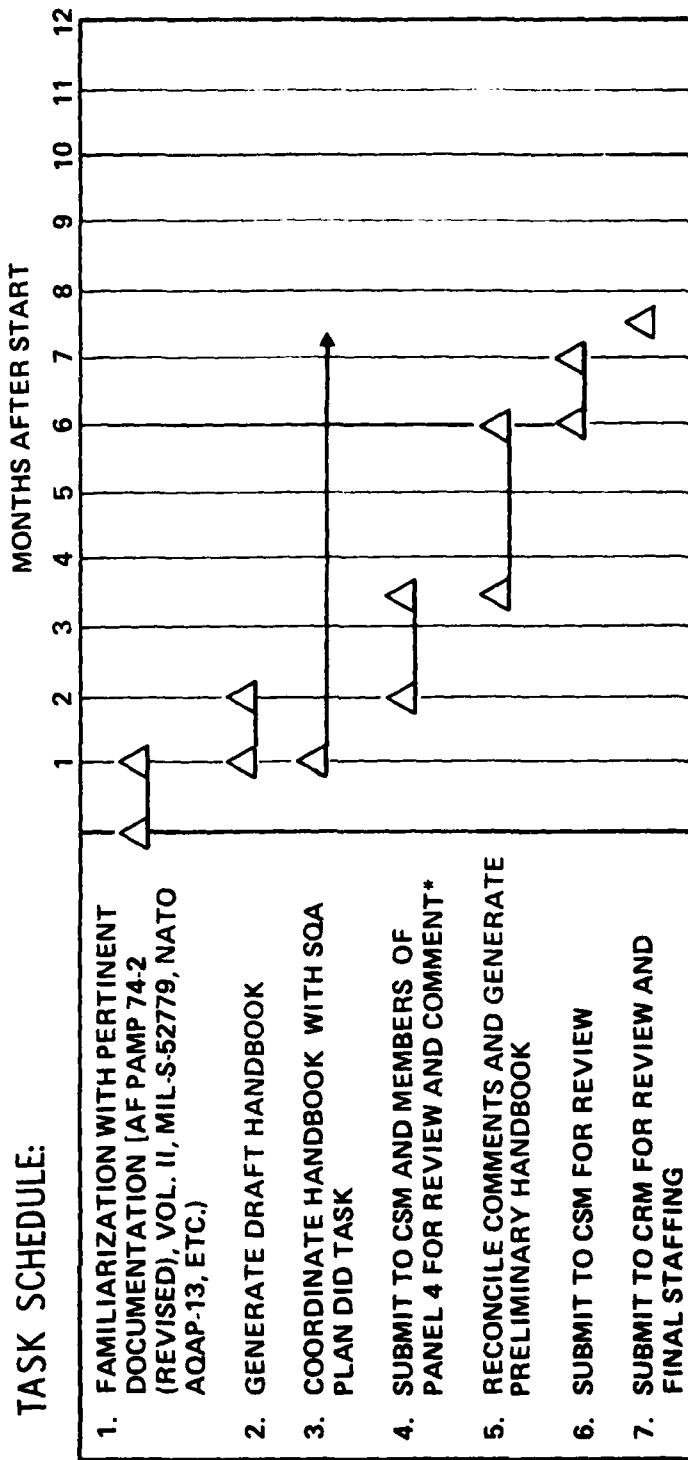
*LEGAL REVIEW INCLUDED IN THIS STEP

HANDBOOK FOR INTERPRETATION OF MIL-S-52779

TASK DESCRIPTION: USING AIR FORCE PAMPHLET 74-2 AS A BASIS DEVELOP
A TRI-SERVICE HANDBOOK FOR THE INTERPRETATION
AND APPLICATION OF MIL-S-52779

HANDBOOK FOR INTERPRETATION OF MIL-S-52779

TASK SCHEDULE:



*LEGAL REVIEW INCLUDED IN THIS STEP

GENERAL POLICIES

TASK DESCRIPTION:

USING EXISTING DOCUMENTATION FROM DOD, THE THREE SERVICES, AND VOLUME II, REPORT OF JLC SOFTWARE WORKSHOP, FORMULATE A CONSISTENT TRI-SERVICE APPROACH TO SOFTWARE QUALITY ASSURANCE THAT COMPLEMENTS THE SOFTWARE DEVELOPMENT EFFORT.

FORMULATE, WHERE NECESSARY, APPROPRIATE POLICIES, REGULATIONS, PROCEDURES, AND PRACTICES

DEFINE RESPONSIBILITIES AND REQUIREMENTS FOR SOFTWARE QA WITHIN THE GOVERNMENT AS WELL AS FOR SOFTWARE ACQUISITION

GENERATE AN SQA GUIDEBOOK DETAILING THE SQA APPROACH DEVELOPED

GENERATE COURSE OUTLINES AND OTHER MATERIALS NECESSARY TO ESTABLISH A TRAINING COURSE FOR SQA FOR TRI-SERVICE PERSONNEL (USE GUIDEBOOK AS A BASIS)

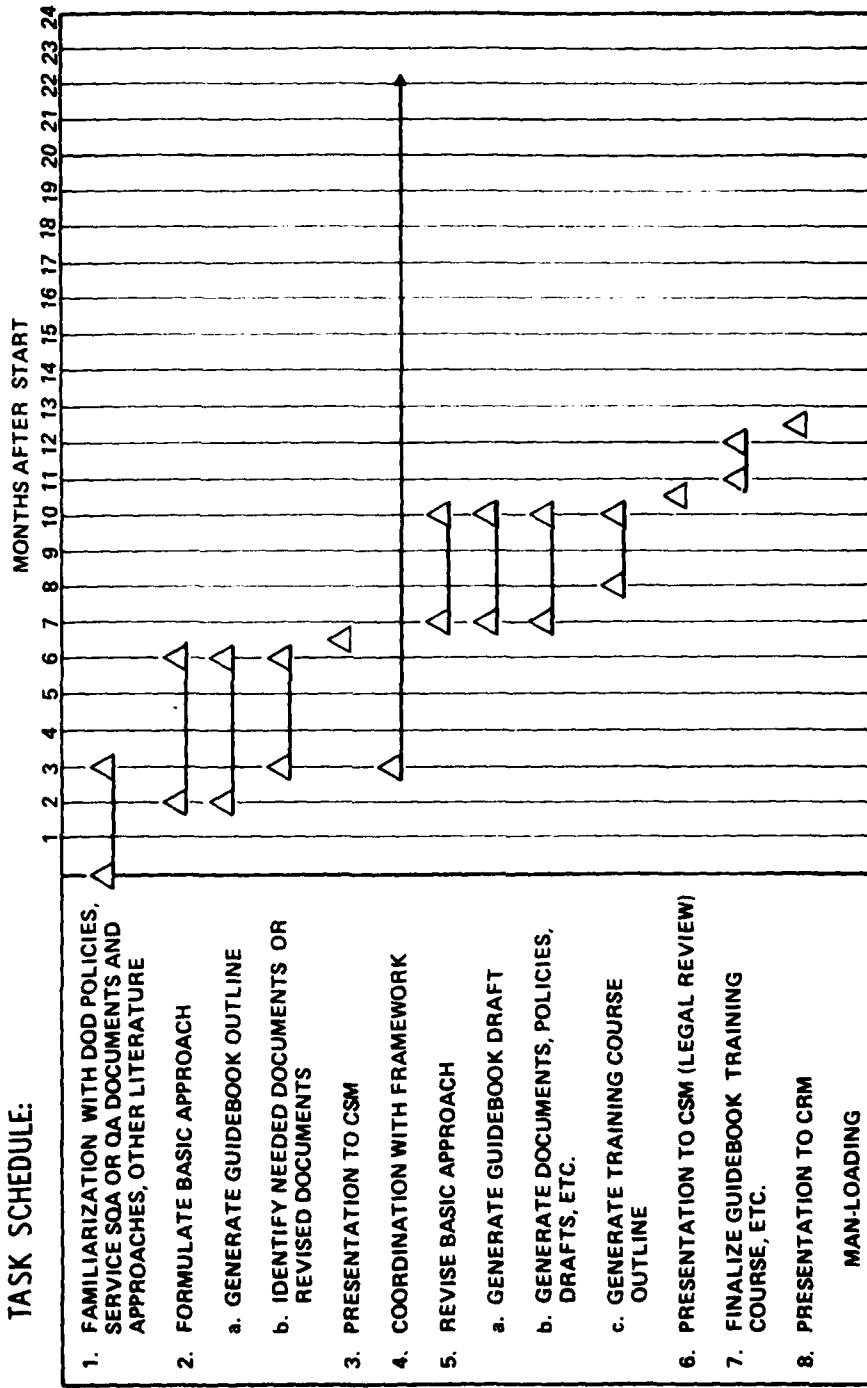
SQA RESPONSIBILITIES EXTEND THROUGHOUT THE LIFE-CYCLE OF A SYSTEM/SOFTWARE

SQA MAY INCLUDE CONVENTIONAL VERIFICATION/VALIDATION FUNCTIONS

GUIDEBOOK SHOULD BE ORGANIZATIONALLY INDEPENDENT

GENERAL POLICIES

TASK SCHEDULE:



**3.5 PLAN FOR
SOFTWARE ACCEPTANCE STANDARDS**

SOFTWARE ACCEPTANCE STANDARDS

- SOFTWARE ACCEPTANCE POLICY
- SOFTWARE ACCEPTANCE PROCEDURES
- SOFTWARE ACCEPTANCE CRITERIA

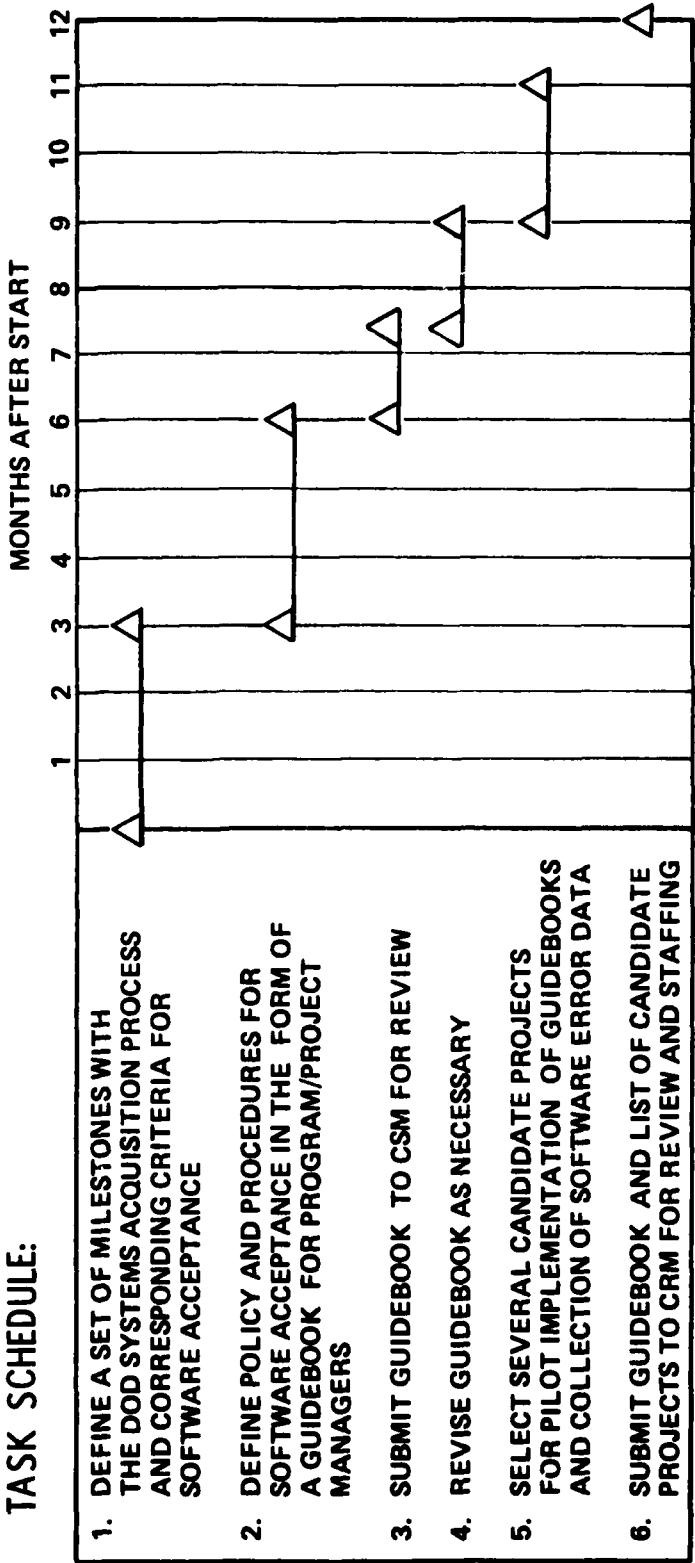
STANDARDIZATION OF SOFTWARE ACCEPTANCE

TASK DESCRIPTION:

DEFINE AND DEVELOP SOFTWARE ACCEPTANCE POLICY,
PROCEDURES, AND CRITERIA FOR THE ACQUISITION OF
SOFTWARE IN DEFENSE SYSTEMS BASED ON PANEL D'S
RECOMMENDATIONS AND EXISTING MIL AND DOD
STANDARDS AND SPECIFICATIONS

STANDARDIZATION OF SOFTWARE ACCEPTANCE

TASK SCHEDULE:



SECTION 4 - CONCLUDING REMARKS

Full implementation of the recommendations in this report will lead to better and more uniform software acquisition processes in all services. The improved acquisition methods will assure that software, when delivered, is more understandable and, hence, easier to maintain. The standardization of regulations and document formats will yield an immediate cost savings through the elimination of redundant efforts across the services. Ultimately, these actions will translate into cost and schedule improvements as well as more reliable, maintainable systems.

In compliance with JLC direction, the policy definition will be generated by the CSM, JPCG-CRM.